Work Order ID 59 Tuesday, June 22, 2010 10:		* * *						Page 1	
Item ID: , D206-667-	103		Accept				Setup Sta	art	="
Revision ID: Crosstube For Cro	wd				*	7 The 1	Sto		
Start Date: 6/22/2010 Required Date: 7/20/2010 Reference:	Start Qty: 1.00 Req'd Qty: 1.00		. ·	Cust Item I Customer:	ID:			1	
Approvals: Process P	lan:	Date: 10-6-32	Tooling:		ate:		Run Sta		
QC:	<u> </u>	Date:	SPC (Y/N):	Da	ate:		•		
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID		Plan Acce	ept Reject Qty	Reject Insp. Number Stamp	_
Draw Nbr Re	evision Nbr				•				
D206-667-143 Re	ev C					1	(£		
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110	Pick Kit Packaging	¢.	0.00		,			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
Packaging Packaging	Memo		0.00	Ĺ		<u>.</u>		MB 10-04-	28
120 CNC Bend 2	BENDING MACHINE Memo		0.00	**			2) 20	MB 10-06	× 2
CNC Alpha 160 Bender	Bend tube	as per Dwg D206-667-143	using CNC bender progr	ram	*	ù		l.	

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Dart Ae	rospace	Ltd						•	
W/O:			WC	RK ORDER CHANGES	3				*
DATE	STEP	PR	OCEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
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Part No):	PAR #:	Fault Cate	gory:	NCR: Yes	No D	PA:	Date: _	
	Re	esolution:	Disposition	n:	QA: N/C C	losed: _		Date: _	
NCR:			WORK ORDE	R NON-CONFORMAN	CE (NC	R)			
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section Action Description Chief Eng	Sign Date	& Se	ication ction C	Approval Chief Eng	Approval QC Inspecto
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Work Order ID 59975

Tuesday, June 22, 2010 10:15:13 AM



Page 2

Item ID:

D206-667-103

Accept

Setup Start

Stop



Revision ID:

Start Date:

Item Name: Crosstube Fwd

6/22/2010

Start Qty: 1.00

Required Date: 7/20/2010

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Operation

Description

Date:____

Tooling:

0.00

Date:

Run

Start

Stop

QC:

Date:

SPC (Y/N):

Set Up/

Run Hours

Date:

Tool ID | Tool # Plan

Code

Accept Qty

Reject Qty

Reject Insp. Number Stamp

Sequence ID/ Work Center ID

130

Memo

QC15- Crosstube Dimensional Check

5 10/06/26

Quality Control

Dart Aerospace Ltd

W/O:			W	ORK ORDER CHANG	ES				
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DC	A:	_ Date: _	
	Re	solution:	Dispositio	n:	_ QA: N/C Cld	osed: _		Date: _	
NCR:		-	WORK ORD	ER NON-CONFORMA	NCE (NCR)			
DATE	OTED	Description of NC		Corrective Action Secti		Verif	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		ion C	Chief Eng	QC Inspector
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Work Order ID 59975

Tuesday, June 22, 2010 10:15:13 AM



Page 3

Item ID:

D206-667-103

Accept

Setup Start

Stop



Revision ID:

Item Name: Crosstube Fwd

Start Date: 6/22/2010 Required Date: 7/20/2010

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

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QC:

Process Plan:

Date:

Tooling: SPC (Y/N): Date:

Date:

Start Stop



Sequence ID/ Work Center ID

140



Crosstubes

Crosstubes

Operation Description

Crosstubes

Set Up/ **Run Hours**

0.00

0.00

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Run

Reject Insp.

Number Stamp

Memo

Date:

1-Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes.

5-Drill pilot holes as per Dwg D206-667-143.Drill only the top (2) holes.

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-141.

8-C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint.

9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143 Inside of Cuff(Donot engrave on outside of tube)

10-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143

fw M 10-06-29

Dart Ae	rospace Ltd						,	1 1
W/O:			WORK ORDER	CHANGES				
DATE	STEP	PR	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Category:	NCR: Yes	No DQ	A:	Date: _	
	Resolution	on:	Disposition:	QA: N/C C	losed:		Date: _	
NCR:			WORK ORDER NON-CON	IFORMANCE (NC	R)			

NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCR)			
		Description of NC		Corrective Action Section B			Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	QC Inspecto
								

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Work Ord Tuesday, June 2							Ì						Page 4	=
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Revision ID:							12111 90 111 21 2 11 4 1	11 01 16 0 11 20 11		,				
Item Name:	Crosstube Fw	d					1		1		Stop			
Start Date: Required Date:	6/22/2010 : 7/20/2010	Start Qty: 1.00 Req'd Qty: 1.00				Cust Iten Custome						.,	·····	
Reference:														
Approvals:	Process Pla	nn:	_ Date:_		Tooling:		Date:			Run	Start			
	QC:		_ Date:_	 	_ SPC (Y/N):		Date:				Stop			
Sequence ID/ Work Center I	D	Operation Description		+	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp	-
		Crosstubes Chemical Co	onversion		0.00		•		. /		_	_	AWM	,
HandFXtube		Memo			0.00		t						- J-V	
Hand Finishing Cro	sstubes						!							
		QC3- Inspect Part Finish	1		0.00	1/1							:	
QC		Memo			، ک	Q() () ()	F				P 1-			
Quality Control							1							

170

OC

Quality Control

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Memo

QC5- Inspect part completeness to step on W/O

0.00

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Dart Aerospace Ltd	Dart	rt Aero	space	Ltd
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W/O:			W	ORK ORDER CHANG	ES					• •
DATE	STEP	PRO	OCEDURE CH	ANGE	В	У	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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	R	esolution:	Disposit	ion:	QA: N	C Clos	sed:		Date: _	
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DATE	STEP	Description of NC	In tale I		tion B	ign &		cation	Approval	Approval
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Work Order ID 59975

Tuesday, June 22, 2010 10:15:13 AM



Page 5

Item ID:

D206-667-103

Accept

Setup Start



Revision ID:

Item Name:

Crosstube Fwd

Start Date:

6/22/2010

Start Qty: 1.00

Required Date: 7/20/2010

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: _____ Date:____ QC:

Tooling:

SPC (Y/N):

Set Up/

0.00

0.00

Run Hours

Date: Date: Run

Start

Stop



Stop

Sequence ID/ Work Center ID

180

Outsource2

Outsource process - NDT

Operation Description

Outsource process - NDT per QSI038 4.1

P/0'12200

Memo

CROSSTUBES

Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Reject Insp. Number

Stamp

Date: _____

P/0'.12212

C210/7/7

190

Packaging

Packaging

Packaging

Memo

0.00

0.00

Ensure copy of NDT results attached to work order.

200

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Dart Aerospace Ltd WORK ORDER CHANGES W/O: **Approval Approval** DATE **STEP** Qty PROCEDURE CHANGE By Date Chief Eng / QC Inspector Prod Mgr Part No: ______ PAR #: ____ Fault Category: _____ NCR: Yes No DQA: ___ Date: ____ Resolution: _____ Disposition: ____ QA: N/C Closed: ____ Date: ____

NCR:			WORK ORD	ER NON-CONFORMANC	E (NCR)			
		Description of NC		Corrective Action Section B		Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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Work Ord Tuesday, June 2								F f	•			Page 6
Item ID: Revision ID:	D206-667-10	03		Accept				s s	Setup	Start		
Item Name:	Crosstube Fw	d						i i		Stop		
Start Date: Required Date: Reference:	6/22/2010 7/20/2010	Start Qty: 1.00 Req'd Qty: 1.00			Cust Item Customer:			•				:f
Approvals:	Process Pla	ın:	Date:	Tooling:	Ď	ate:	-	F	Run	Start		
	QC:		Date:	_ SPC (Y/N):	D	ate:				Stop		
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reje Qty		Reject Number	Insp. Stamp
SprayPaint		SprayPaint			·			87	_	0	,07	-(4
Spray Painting		Memo 1-Prime insi	de and outside crosstube	0.00 as per QSI 005 4.2								
		2-Paint outs	ide crosstube with White	Imron as per QSI 005 4.2		<u>!</u>		•				
		PRIME: Start Time:_ Fininsh Tim	<i>ع</i> ن ها e: <u>(۵</u>		,	,						11
		PAINT: Start Time: Finish Time					4		s -	•		<u>(</u> ′

0.00

0.00

220

Quality Control

QC14- Inspect Spray Paint

Memo

Wrap in plastic bag to protect from scratches

Dart Aerospace Ltd

W/O:		WORK ORDER (CHANGES			,
DATE	STEP	PROCEDURE CHANGE	By Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No:	PAR #:	Fault Category:	NCR: Yes No DC	A: Date:
Resolution	on:	Disposition:	QA: N/C Closed:	Date:

NCR:			WORK ORD	ER NON-CONFORMANO	JE (NCR)	ľ		
		Description of NC		Corrective Action Section B		Verif cation		Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		QC Inspector
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Work Ord Tuesday, June 2			•					1			And the second s	Page 7
Item ID: Revision ID: Item Name: Start Date:	D206-667-10 Crosstube Fwd	Start Qty: 1.00			Cust Item	ID:			Setup	Start Stop		11 10 110 16 1 11 14 11 11 11 11
Required Date: Reference: Approvals:	Process Pla	Req'd Qty: 1.00	Date:	Tooling: SPC (Y/N):		: Date: Date:			Run	Start Stop		116 107 118 1 18
Sequence ID/ Work Center II 230 Crosstubes Crosstubes	D .	1-Install sup 015. Let cure holes should A/R Magnot 2-Install sup 100 in lb 3-Install nut	e for 12h after installation be facing up. bond 6398:	6" thick layer of magnobond ion and prior to packaging. Note that the packaging of the pack	ue clamps to 80-	Tool#	Code	Accep Qty	t Rej Qty		Reject Number	Insp. Stamp
240 QC		QC5- Inspect part comple	eteness to step on W/O		orla	1		-Æ)			

Memo

Quality Control

Dart	Aeros	pace	Ltd
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W/O:					•				
DATE	STEP	PRO	OCEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	•	PAR #:	Fault Cat	tegory:	NCR: Yes	No DG	A:	_ Date: _	
	R	esolution:	Disposit	ion:	QA: N/C C	osed: _		Date: _	
NCR:			WORK ORI	DER NON-CONFORMA	NCE (NCF	?)			
DATE	STEP	Description of NC		on B	Verif	cation	Approval	Approval	
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Work Order ID 59975

Tuesday, June 22, 2010 10:15:13 AM



Page 8

Item ID:

Revision ID:

Item Name:

D206-667-103

Crosstube Fwd

Accept

Setup Start



Cust Item ID: Customer:

Tool ID

Stop

Start Date: Required Date: 7/20/2010

6/22/2010

Start Qty: 1.00 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan: _____ Date: ____ Tooling:

Date:

Run Start

QC:

______ Date:_____

SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID

250

Packaging

Operation Description

Pick Kit

Set Up/ **Run Hours**

0.00

Tool# Plan Code

Accept Reject Qty

Reject

Insp. Number Stamp

Packaging

Memo

0.00

260

Quality Control

QC4- 100% Inspect kits for completeness

270

Packaging Packaging

Packaging

Memo

Memo

0.00

0.00

Identify and pack for shipping as per PPP D206-667-103

Location:

PPP Rev:

Dart Ae	rospace L	td						,	
W/O:			WC	RK ORDER CHANG	ES				•
DATE	STEP	PR	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto
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Part No):	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DQ	k:	Date: _	
	Reso	olution:	Disposition	n:	_ QA: N/C C	losed:		Date: _	
NCR:		WORK ORD	R NON-CONFORM	ANCE (NCF	3)				
DATE	OTED	-ED Description of NC		Corrective Action Sect	ion B	Verifi	cation	Approva	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	≰ Sec	ton C	Date: Date:	QC Inspecto

Work Order ID 59975

Tuesday, June 22, 2010 10:15:13 AM



Page 9

Item ID:

D206-667-103

Accept



Setup Start



Stop

Item Name: **Start Date:**

Required Date: 7/20/2010

Revision ID:

6/22/2010

Crosstube Fwd

Start Qty: 1.00 Req'd Qty: 1.00

Operation

Description

Date:_____

Cust Item ID:

Customer:

Reference:

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Process Plan:

QC:

Date:

Tooling:

SPC (Y/N):

Date: Date:

Start



Stop

Sequence ID/

Work Center ID

280

Memo

QC21- Final Inspection - Work Order Release

Tool ID

Set Up/ **Run Hours**

Tool # Plan Accept Code Qty

Reject Qty

Run

Reject Insp. Number

Stamp

Quality Control

0.00

0.00

10/07/22 pl 10-7-21

Dart Aerospace Ltd W/O: WORK ORDER CHANGES DATE STEP PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr

Part No:	PAR #:	Fault Category:	NCR: Yes No	DQA:	Date:
	Resolution:	Disposition:	QA: N/C Closed:		Date:

Approval QC Inspector

NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCR)			
5475		Description of NC	Corrective Action Section B				Approval	Approval
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Picklist Print							· · · · · · · · · · · · · · · · · · ·						
Tuesday, June 22, 2	010 10:15:17 AM					٠	1						Page 1
Work Order ID: 59	975										* · · · · · · · · · · · · · · · · · · ·		-1
Parent Item: Da	206-667-103												•
Parent Item Name:	Crosstube Fwd		1188		!! !!!!! 				tart Date: Start Qty:	6/22/2010 1.00	Required Require	Date: 7/2	
Comments:	IPP Rev:F□05.09.0 IPP Rev:G 08-06- IPP Rev: H 08.11 IPP Rev:I 08-12 IPP Rev J 09.01.4 IPP Rev:K 09-01-	-03 update as pe.17 QC5 was QC-15 add magnob06 ECN 08-562	er DSI9 C6 at ste ond D EC	415 (ECN119 p 12 KJ ver D verified by verified by: I	8) DD verified by: EC r:EC	SJ/JLM 1 by:	i				·		
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per	Kit Total Qty	Qty Issued	Date Issued	Status
D206-667-103TRN	 	Manufactured	No			110	Each	2.0000		1 MB L	0-06-	z 8 ,	
				Location LG	55831 55832	Loc	Oty 2 1 1	Loc Code		D	- -		
D2873-043 Nut Plate Assembly		Manufactured	No			230	Each	48.0000	2	2			•
			·	<u>Location</u> LG	53966 56466 57337	Loc	Oty 48 20 8 20	Loc Code			_ W(_	10.0	07, 19
D2873-045	II 1841 844 844 888	Manufactured	No			230	Each	44.0000	2	2	_		
				<u>Location</u> LG	53967	<u>Loc (</u>	44 5	Loc Code			m	10-	07.16
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Dart Aerospace Ltd

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W/O:			WO	RK ORDER CHANG	ES					
DATE	STEP	PRO	OCEDURE CHAI	NGE	В	у	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No);	PAR #:	Fault Categ	jory:	NCR: `	es N	lo DC	A:	Date: _	
	Re	esolution:	Disposition	n:	QA: N/	C Clo	sed:		Date: _	
NCR:			WORK ORDE	ER NON-CONFORM	ANCE (1	ICR)				
DATE		Description of NC			ion B		Verif	cation	Approval	Approval
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Picklist Print				+			
Tuesday, June 22, 2010 10:15:17 AM				1			Page 2
Work Order ID: 59975							1
Parent Item: D206-667-103			11 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18		•		
Parent Item Name: Crosstube Fwd .	1 1 04 511 0	(800 110)(80)(8 8)() (188)(8 8)(6 8)(6 17)()	AJ HIFH BRIOD HIN ERDI		Start Date: 6		Required Date: 7/20/2010 Required Qty: 1.00
D2891-1 Manufactured 2.25 Support	l No		230 Each	77.0000		2	(0-07-15
		Location	Loc Oty	Loc Code	e.		
		LG	77		-		
		43880	3				- -
		<u>46159</u> 50952	20 18	'		x2	-
		53347	4	•			-
		53773	20				
D3595-063-395 Manufactured	No	55786	12	10.000			•
I HERMA HARA HURI AHAR AHAR AHAR AHAR BAHA BUKA BUKA BUKA BUKA BUKA BUKA BUKA BUK	710		230 Each	10.0000		4	
RUBBER CUSHION							
		Location	Loc Qty	Loc Code		_	
		FP	10	<u>Loc Cour</u>			(0)
		44667	10				(4 1)
RUBBER CUSHION .63" x 3.95" (4) MS20601-AD4W8 Purchased							
TOTASSE	No		230 Each	342.000		14	
RIVET							

Tuesday, June 22, 2010 10:15:17 AM

Shop Packet Print

Loc Qty

342

98

244

Loc Code

Location

108521

112203

ST322

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Dart Aerospace Ltd

W/o: 5	9975	WORK ORDER CHANGES	WORK ORDER CHANGES							WORK ORDER CHANGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector							
10-07-19		used D3695-063-530 + trèm to size to replace D3695-063-390 (no stock) D 3695-063-530 B51776	81	(a-07-15			5 10/07/20							

Part No: D206-667-103 PAR #:	Fault Category:	NCR: Yes No DQA:_	Date:
Resolution:	Disposition:	QA: N/C Closed:	Date:

NCR: WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section B			Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Chief Eng	QC Inspector
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Tuesday, June 22, 2010 10:15:17 AM

Shop Packet Print

Page 3

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W/O:			W	ORK ORDER CHANG	ES				•
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Part No		PAR #:	Fault Ca	tegory:	_ NCR: Yes	No DQA:		Date: _	
Resolution:									
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DATE	STEP Description of NC Section A	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Section	Ė.	Chief Eng	QC Inspector
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Picklist Print

Tuesday, June 22, 2010 10:15:17 AM

Page 4

Work Ord	ler ID:	59975
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Parent Item:

D206-667-103

Parent Item Name:

Crosstube Fwd



AN960JD516

NAS1149D0563J Purchased

No

Start Date: 6/22/2010

Required Date: 7/20/2010

Required Qty: 1.00

Washer

AN970-4

Purchased

No

250 Each

Start Qty: 1.00 0.0000

18

250

250

Each

93.0000 12

12

Washer

MS21042L5

Purchased No ST349 112991

Location

Loc Oty 93 93

Each ·

681.0000

Loc Code

Location Loc Oty ST139 500 114813 500 ST300 181 114449 181

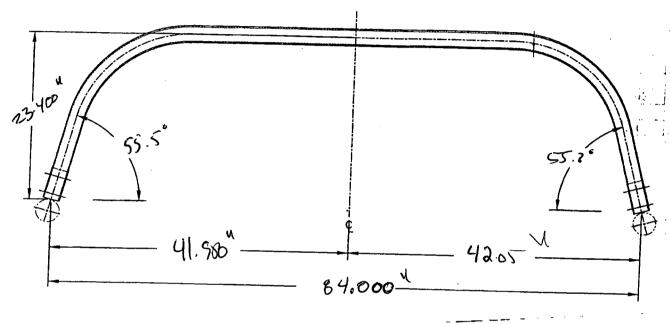
Loc Code

Dart Aerospace Ltd

W/O:			V	ORK ORDER CHAN	IGES					
DATE	STEP	PRO	OCEDURE CH	IANGE		Ву	Date	Cty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Ca	tegory:	NCI	R: Yes	No DQ	\:	Date: _	
Resolution:		Disposit	ion:	QA	N/C Clo	sed:	1	Date: _		
NCR:			WORK OR	DER NON-CONFORM	MANCE	(NCR)			
DATE	STEP Description of NC		Corrective Action Section B			Sign &	Verific	ation	Approval	Approval
		Section A	Initial Chief Eng	Action Description Chief Eng	<u>, </u>	Date	Section	on C	Chief Eng	QC Inspector
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DART AEROSPACE LTD	Work Order:	34975
Description: Crosstube High Fwd (206L)	Part Number:	D206-667-103
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 1

Required Dimension	Min	Rease
Height	23.39	Max 23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.10



	Comments	
		
2C15 Inspection	77-1	
QC15 Inspection Date	1200	

Rev	Date	Change		
Α	07.02.06	New Issue	Revised by	Approved
B			KJ/JM	
-		Dimensions updated per Dwg Rev C	KJ	
	03.10.22	Minimum height dimension revised	KJ	
			110	1/

Dart Ae	rospace L	td						
W/O:			WC	RK ORDER CHANG	ES			
DATE	STEP	PROCEDURE CHANGE B		Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approva QC Inspecto	
			,					
Part No): 	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA:	Date:	
Resolution:		Disposition: QA: N/C Closed: Date:						
NCR:			WORK ORDI	ER NON-CONFORMA	NCE (NCF	R)		
	I	Description of NC		Corrective Action Section	Section B Vori		Approval	Approva
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		Approval Chief Eng	QC Inspect
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NOTE: Date & initial all entries

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Item	Qty -143	Part Number	Description
1	х	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120- 023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHE SIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
- FINISHED LENGTH = 104.98±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: 15.5 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOT COPY RETURN 10 ENGREERING UNCONTROLLE DECEMY SUBJECT TO AMENDMENT WITHOUT NETTE E NO. BS10-6-22



С	REORG TO CUR D3595-0 REMOV RELOCA	ANIZED VIEWS RENT STANDA 163-395 WAS DI ED REF. & ADI ATED FLAG #6	TES/PART LIST (ZN D7-1); S AND REFORMATTED DRAWING ARDS. 2856-400-694 (ZN D8-2 & A5-2); D TOLERANCE (ZN D3-3, C4-3, C5-3); (ZN A8-3) PER NCR 210; MOVED PDATED TOLERANCE TO SHEET 4.	RF	08.11.06		
В	ADD HO WITH B	PH	05.07.26				
A	NEW IS	SUE	CP	00.11.17			
REV.	DESCRIPTION				DATE		
DESIGN		P	DART AEROSP	ACE	LTD		
DRAWN		RF ₂	HAWKESBURY, ONTARIO, CANADA				
CHECKE	:D	a a	DRAWING NO.	11	REV. C		
MFG. AP	PR.	E a	D206-667-143 SHEET 1 OF 4				
APPRO\	/ED	/ild	TITLE		SCALE		
DE APPR. CROSSTUBE ASSY (206L					WD) NTS		
DATE	08.1	1.06	COPYRIGHT © 2000 BY DART ALTHS SOCIALENT IS PRIVATE AND CORPORTINA AND IS SUPPLIED NOT TO BE USED FOR ANY PURPOSE OR CONTROL ON TAXING MINISTER PERMISSION FROM DANT AND	ON THE EXPRES	COMPONENT THAT IS IN		

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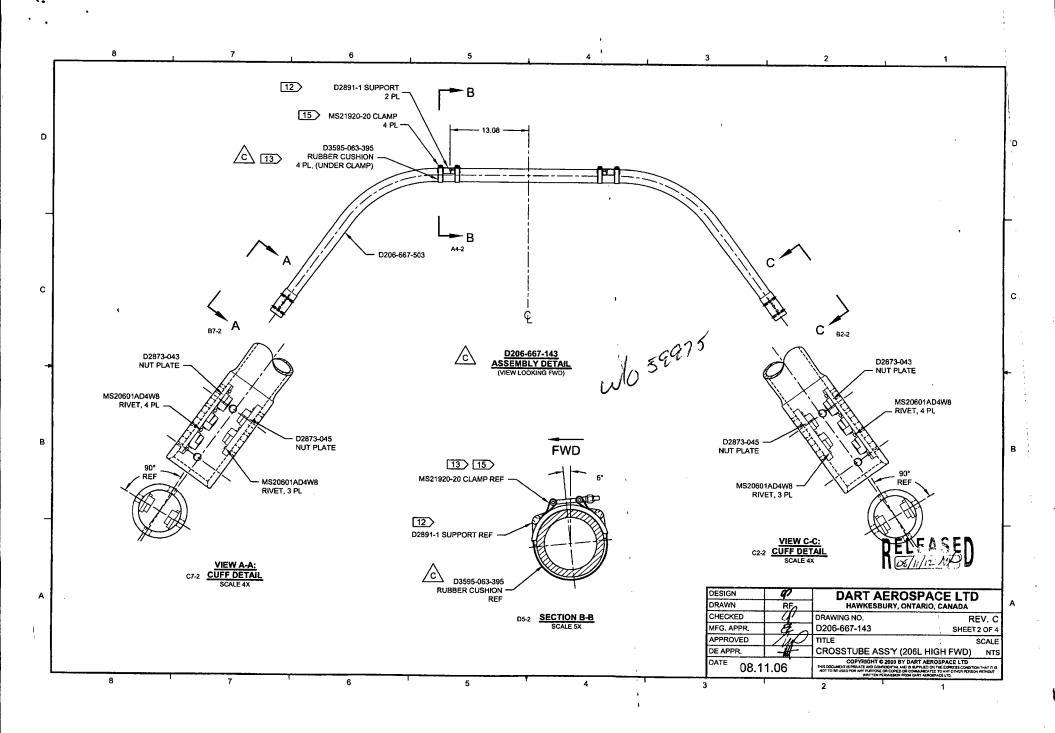
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	Resolution	:	Disposition:	QA: N/C	Closed:		Date: _	
NCB.			WORK ORDER NON-CON	IFORMANCE (NO	CR)			

NCR:		,	WORK ORDER NON-CONFORMANCE (NCR)					
		Description of NC		Corrective Action Section B	Verification	n Approval	Annearal	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section (Chief Eng	Approval QC Inspector
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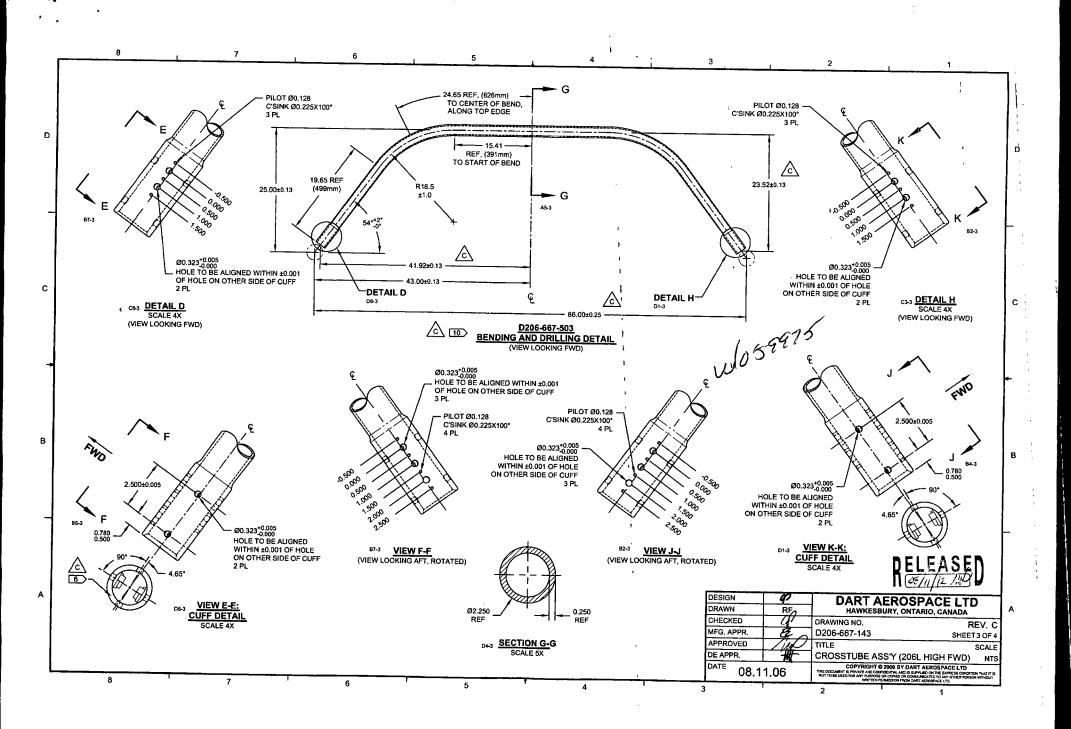
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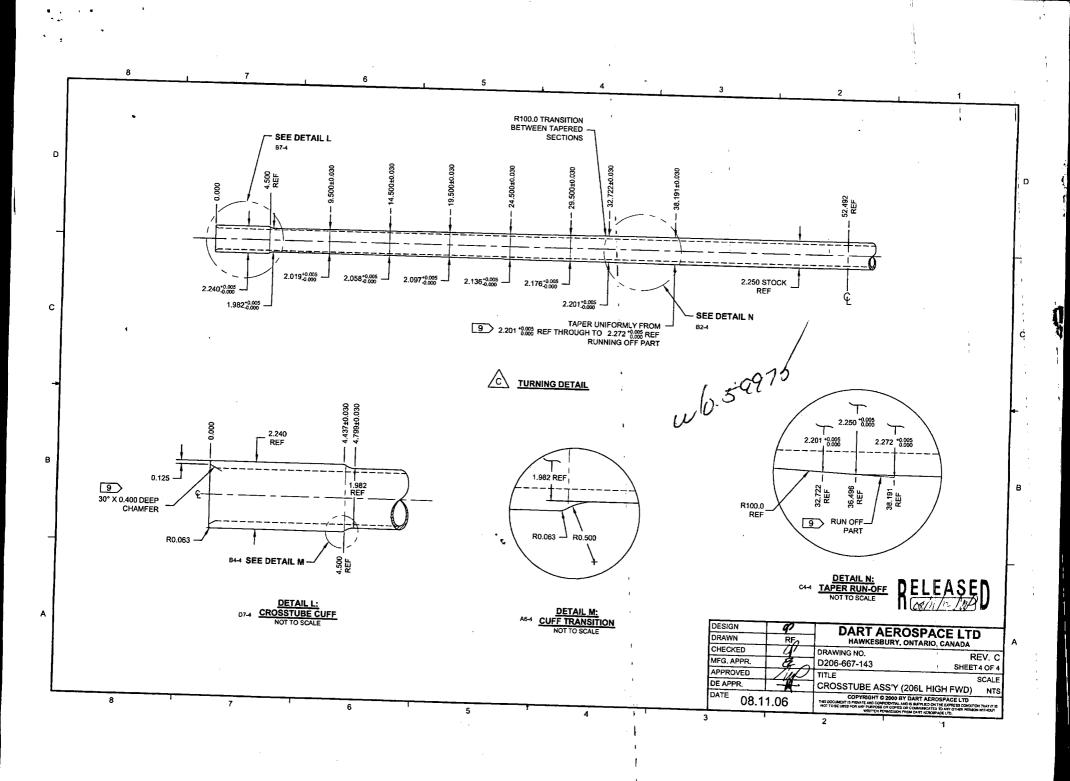


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	Rese	olution:	Disposition: Q			QA: N/C Closed:			Date:		
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Part No):	PAR #:	Fault Cate	gory:	_ NCR: Yes 1	No DQA:		_ Date: _		
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NCR:			WORK ORD	ER NON-CONFORM	ANCE (NCR)					
	T	Description of NC		Corrective Action Sect	ion B	Verifica	on	Approval	Approva	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C		Chief Eng	QC Inspect	
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Part No:		PAR #:	Fault Category:	· · · · · · · · · · · · · · · · · · ·	NCR: Yes No DQA:	Date:
	Resolution:		Disposition:	: .	QA: N/C Closed:	Date:

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LIQUID PENETRANT TEST REPORT

P- 15329

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				PAGE OF
CLIENT	PART AFROSPACE	DATE	T142-2010	TIME AM 🗹 PM 🗆
ATTENTION	LINDA / CHANTEL	ACUREN JOB NO.	188-10.	- 0776
Address 127	O ABERNEEN ST.	PO/WO No.		
14/	WKESBCAT, ON.	WORK LOCATION	MAIN SHOP -	HAWKES BUILY
	KEH 1K7	ACCEPTANCE STD	ASTM 1417	REV./DATE
PROJECT	F.P.I. ON C	ROSS TUBES	& MCHINED F	2275
ITEM(S) EXAMINED	Four C. Ross Tube		· · · · · · · · · · · · · · · · · · ·	
	ELEVEN MACHIN	ED STUDS.		
JOB DESCRIPTION	PROCEDURE NO. LTOWZE	REV./DATE	TECHNIQUE NO. LTTEAT	REV./DATE
PART NO.		MATERIAL S. S	TEEL TH	HICKNESS ALUDINE -
SCOPE WET		QUID PENET	RANT	A aMINUM
TUSTE	CTION CARRIED	aut 100%	EXTENNAL.	
TEST DETAILS				
METHOD FAMILY BRAND	FLUORESCENT UVISIBLE		☐ SOLVENT REM	
FAMILY BRAND PENETRANT 2	14527 FLUX 67 MINIMUM DWELL TIME 454		/6959 □ OUTPUT > 100	0 μ W/cm ² □ Ambient < 2 fc HT □ OUTPUT>100 fc @ SURFACE
PENETRANT REMOVER	1120 MINIMUM DRY TIME >1		4B120	-
DEVELOPER TYPE	MINIMUM DWELL TIME 10 NON AQUEOUS DAQUEOUS D) Min. LIGHT METER S/N DRY	109 8866	CAL DUE DATE OCT. 19
TEST SURFACE	a Non Addedos a Addedos a	DRY		70.10
SURFACE CONDITION	☐ AS GROUND ☐ AS WELDED	MACHINED	☐ ,SHOT BLASTED	CLEAN BARE METAL
SURFACE TEMPERATURE	·	o 10°C/50°F	፱ 10°C/50°F TO 52°C/125	°F 🔲 > 52°C/125°F
RESULTS-	(METRIC MPERIAL)			
	s-W.o. 59668 / S-W.O. 58635 /	/ Oktas		
J-374D		INDICA.	1 uns en CRO 59975	SS TUBES.
į	TUBE-W.O. 59976	νω. O. #	59976 58388	
1 - CKOSS	TUBE-W.O. 58387 V.	IN PROC	ess_73e	KENCUED
mai an descriptions, comments and representations or warranties. Actu data or other information provided (Standard of Care	to perform services extends only to those services provided for in expressions of opinion reflect the opinions or observations of Acus en Graup Inc. is not assuming any responsibilities of the ownerfor by Acusen Group Inc. In no event shall Acusen Group Inc.'s liability Acusen Group Inc. uses the degree, care and skill ordinarily exer- ten Group Inc.	ven Group Inc. based on information and assoverator and the owner/operator retains comply in respect of the services referred to herei	umptions supplied by the owner/operator o olete responsibility for the engineering, man n exceed the amount paid for such services.	md are not intended nor can they be construed as infacture, repair and use decisions as a result of the
SIGNATURES			1 1	The second secon
CLIENT REPRESENTATIV	E Jasan Hurdoch		VVV DTR#	E63366
TECHNICIAN (SIGNATURE):	PRINT /-	SIGNATURE	REPORT	
NAME (PRINT):	MIKE TOHNSTON	5	REVIEWED BY:	NAME INITIALS
	CGSB LEVEL SNT LEVEL CGSB REG. NO 6 6 6 6	2** TECHNICIAN CGSB LEVEL SNT LE CGSB REG. NO		



LIQUID PENETRANT TEST REPORT

P- 15181

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	PAGE
CLIENT DACT A ENOSPACE	DATE July 7-2010 TIME AM & PM 0
ATTENTION LINDA/CHANTEL	ACUREN JOB NO. 108-10-0777
ADDRESS 1270 ABENDEEN HANKES	POWO No.
0,57	WORK LOCATION MALIN SHET- HAWKESPURY
KOH 1K7	ACCEPTANCE STD. ASTU 1417 REV./DATE 2007
PROJECT F.P.I. W THE	REE CROSS TUBES THAT WAD FREYERS
ITEM(S) EXAMINED INDICATIONS (SEE CEPONT	# 15329) E FOUR CROSS TIBES
JOB DESCRIPTION PROCEDURE NO. LTCO 2 REV./	DATE TECHNIQUE NO. LTHAN 2 REV./DATE
PART NO.	MATERIAL CHAWLESS STEEL THICKNESS ACIDINE
SCOPE WET FLOWESCENT	LIQUID PENET PANT ALMINE
INSECTION CARLES OUT	100% EXTENAL
TEST DETAILS	
METHOD ☑ FLUORESCENT ☐ VISIBLE	₩ATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
PENETRANT 2/62 MINIMUM DIVISED TIME 1/2-16	BLACK LIGHT S/N /6 45 € □ OUTPUT > 1000 µ W/cm² □ AMBIENT < 2 fc
PENETRANT 2667 MINIMUM DWELL TIME 4510 PENETRANT REMOVER #20 MINIMUM DRY TIME >10	MIN. LIGHTING EQUIP. D FLASHLIGHT D TROUBLELIGHT D OUTPUT>100 fc @ SURFACE MIN. OTHER 48 NO
DEVELOPER StD 52 MINIMUM DWELL TIME 10	MIN. LIGHT METER S/N 1098866 CAL DUE DATE 007 18
DEVELOPER TYPE NON AQUEOUS AQUEOUS DRY TEST SURFACE	2010
Surface Condition	☐ MACHINED ☐ SHOT BLASTED ☐ CLEAN BARE METAL
SURFACE TEMPERATURE □ < - 4°C/ 20°F □ - 4°C/ 20°F το 10°	
RESULTS- (METRIC Imperial)	0.000
1 - Closs Tube. W.O. 58388 1 - Closs Tube. W.O. 60145 1 - Closs Tube. W.O. 60146 1 - Closs Tube. W.O. 60146 1 - Closs Tube. W.O. 59873 Scope of Services The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Proposentations or warranties. Acuren Group Inc. is not assuming any representations of Acuren Group.	Note of Closs Tubes The w.o. 59976 14-w.o. 59976 WELE ON REPORT # 15329 INDICATIONS WELE FOCATED AREAS OF INTEREST WELE EXAMINED AT THIS TIME AND Found Acceptable Tound Acceptable Tound Acceptable The interpretation and assumptions supplied by the owner/operator and are not intended nor can they be construed as and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the
Standard of Care	spect of the services referred to herein exceed the amount paid for such services. der similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or
CLIENT REPRESENTATIVE Kan Titley	16.67 DTR# E63368
ECHNICIAN (SIGNATURE):	SIGNĂTURE
111/7/11/	REPORT REVIEWED BY:
VAME (PRINT): Muke toffer Stow	NAME INITIALS
COOD D 1)	SB LEVEL SNT LEVEL SB REG. NO